

STATEMENT OF SUBSTANCE OF INTERVIEW

An interview was conducted between Examiner Nathan Curs, Examiner M.R. Sedighian and the Applicant's undersigned representative on November 4, 2004. The rejection of claim 1 in view of Cao was discussed. No agreement was reached. The Examiner suggested an amendment to claim 1 which has been incorporated into newly added claim 15.

It is respectfully submitted that the instant STATEMENT OF SUBSTANCE OF INTERVIEW complies with the requirements of 37 C.F.R. §§1.2 and 1.133 and MPEP §713.04.

REMARKS

This Amendment, submitted in response to the Office Action dated August 25, 2004, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-15 are all the claims pending in the application.

I. Claim Rejections under 35 U.S.C. § 102

Claims 1, 11 and 14 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Cao et al. (U.S. Patent No. 6,337,755).

Cao suffers from a deficiency which an exemplary embodiment of the present invention is meant to cure. In particular, Cao shows a regenerator in which each channel has its own reference clock (24 and 28). Therefore, Cao demonstrates a solution similar to the prior art (see page 1, lines 21-31 of the specification) which is bulky, costly and has a high power consumption because of the number of electronic circuits to be replicated for clock recovery.

Assuming *arguendo* the language “comprising a clock distribution unit...comprising a reference clock” is not limited to a single clock, as argued by the Examiner, claim 1 further recites “for each modulator, means for synchronizing the phase of a copy of **the reference clock** with the signals applied to the modulator.”

Further, means for synchronizing the phase of a copy of the reference clock with the signals applied to the modulator is not disclosed in Cao. In particular, a control recovery circuit 24 is provided for each modulator. Since the clock recovery circuit generates a reference clock, as indicated by the Examiner, each modulator has a control recovery circuit generating a reference clock. Therefore, the phase of *a copy of the reference clock* is not synchronized with the signals applied for each modulator. It is apparent in Cao, assuming the modulator is taught, that the signals applied to the modulator have different clock signals. Consequently, the interrelationships between the modulators and the reference clock is not disclosed in Cao.

Furthermore, Cao does not disclose the clock distribution unit, modulation clock and reference clock of claim 1. Claim 1 recites a plurality of optical modulators each adapted to receive signals from the demultiplexer **and** a modulation clock from a clock distribution unit.

The Examiner asserts that clock recovery circuit 24 discloses the clock distribution unit of claim 1. However, there is no indication of a modulation clock in clock recovery circuit 24. Additionally, the Examiner asserts that drive voltage circuit 28 drives the modulator and is a clock signal and is therefore a modulation clock. Assuming the output of the drive voltage circuit is a modulation clock, the output is from the drive voltage circuit 28. The drive voltage circuit 28 is not

the clock distribution unit (clock recovery circuit 24) as cited by the Examiner. Therefore, assuming a modulation clock is taught, the modulation clock is not from the clock distribution unit.

Furthermore, there is no indication that the plurality of optical modulators receive signals from the demultiplexer **and** a modulation clock of the clock distribution unit. It appears that each optical modulator has its own clock distribution unit (clock recovery circuit 24). Therefore, the plurality of optical modulators do not receive signals from the demultiplexer and a modulation clock of the clock distribution unit.

For the above reasons, claim 1 and its dependent claims should be deemed patentable.

Claim 14

Claim 14 recites a “clock distribution unit... wherein the clock distribution unit comprises a reference clock and for each modulator, means for synchronizing the phase of a copy of the reference clock with the signals applied to the modulator.” It is apparent that the clock distribution unit comprising a reference clock refers to the previously recited “clock distribution unit.” As discussed above with respect to claim 1, Cao does not disclose the claimed clock distribution unit. For at least the above reasons, claim 14 should be deemed patentable.

II. Claim Rejections under 35 U.S.C. § 103

Claims 2 and 8-10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Cao in view of Ransijn (U.S. Patent No. 6,347,128).

Claim 2 recites that the phase synchronization *means comprises a phase-locked loop for each modulator*. Assuming Cao teaches a phase synchronization means, there is no indication that the

phase synchronization means comprises a phase-locked loop for each modulator. Therefore, the Examiner cites Ransjin to cure the deficiency.

As previously indicated, Cao does not teach means for synchronizing the phase of a copy of the reference clock with the signal applied to the modular, and Ransjin does not cure the deficiency.

Assuming Ransjin discloses a phase-locked loop, there is no indication that there is a phase-locked loop for each modulator, as recited in claim 2.

Furthermore, Cao appears to disclose a means for phase-synchronization which does not include the use of a phase-locked loop. Therefore, the Examiner's reasoning to modify Cao to include a phase-locked loop for phase synchronization is a result of hindsight. In particular, Cao appears to teach a means for phase synchronization without the use of a phase-locked loop. Therefore, claim 2 and its dependent claims should be deemed patentable.

Claim 10

Claim 10 recites that a clock recovery circuit supplies a control signal for the oscillator. The Examiner concedes Cao does not teach these elements and cites Ransjin to cure the deficiency. The Examiner cites PD(t) of Ransjin for teaching a control signal for the oscillator. PD(t) of Ransjin teaches a phase detector output. A phase detector output is not a control signal as recited in claim 1. Therefore, claim 10 should be deemed patentable.

III. Allowable Subject Matter

The Examiner has indicated that claims 3-7, 12 and 13 contain allowable subject matter and would be allowable if rewritten in independent form including all of the limitations of the

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base claim and any intervening claims. At the present time, Applicant has not rewritten claims 3-7, 12 and 13 since Applicant believes they will be deemed patentable by virtue of their dependency to claim 1 for the reasons set forth above.

IV. New Claims

Applicant has added claim 15 to provide a more varied scope of protection. Claim 15 was suggested by the Examiner. Support for the language of claim 15 is illustrated in Fig. 1.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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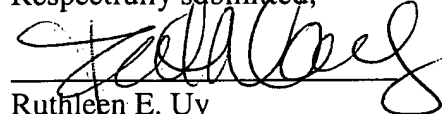
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Respectfully submitted,



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